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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,993	02/07/2001	Mitsuo Nimura	CANO:019	2390

7590 05/04/2005
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EXAMINER

PHAM, THIERRY L

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,993

Applicant(s)

NIMURA ET AL.

Examiner

Thierry L. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27,32 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27,32 and 37-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/7/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- This action is responsive to the following communication: an Amendment filed on 1/18/05.
- Replacement Drawing Sheets for figures 1 and 14 have been received and approved.
- Amendment to the Title has been received and approved.
- Claims 1-27, 32, 37-39 are pending in application; Claims 28-31, 33-36 have been canceled.

Claim Rejections - 35 USC § 103

Claims 1-27, 32, 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al (US 5159546), and in view of York et al (US 4602776).

Regarding claim 1, Inoue discloses an image forming apparatus (fig. 2a) comprising:

- inputting means (scanner, fig. 1) for reading images recorded on originals;
- image forming means (printer engine, fig. 1) for forming images on blank sheets based on the read images;
- stacking means (paper inserter trays, fig. 2 and fig. 30, col. 7, lines 5-15 and col. 23, lines 44-67) for stacking a plurality of insert sheets which are inserted between said sheets (interleave sheets, fig. 32d) having images formed thereon by said image forming means;
- inserter means (interleave inserter functions, fig. 32d, fig. 34a-b, col. 41, lines 45-65) for feeding the stacked insert sheets and inserting same between said sheets having images formed thereon;
- designating means (interleave inserter functions, fig. 32d, figs. 34a-b) for designating at least one position (i.e. inserts a sheet of white paper between the respective OHP copy, col. 41, lines 60-65) in said sheets having images formed thereon for insertion of at least one of the insert sheets by said inserter means;
- detecting means (paper detector means for detecting presence/absence of media in paper trays, col. 21, lines 60-67 and col. 22, lines 48-60) for detecting an insert sheet to be inserted first when a plurality of positions have been designated by said designating means; and

However, Inoue teaches an image forming apparatus includes stacking means and discharging means but fails to explicitly teach a stacking means for stacking insert sheets in a

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predetermined order in which the insert sheet are inserted, and discharging means operable when said detecting means detects that the insert sheet fed by said insert means is not the sheet to be inserted first, for discharging insert sheets onto at least one tray other than a tray onto which the insert sheet to be inserted first is designated until the insert sheet to be inserted first is detected.

York, in the same field of endeavor for inserting insertion paper, teaches an image forming apparatus (image forming apparatus as shown in fig. 2) having a stacking means (insert paper tray 60 for stacking plurality of different types of medias 62 in predetermined order, fig. 2-3, col. 1, lines 45-65, col. 6, lines 1-67 and col. 8, lines 5-20) for stacking insert sheets in a predetermined order in which the insert sheet are inserted (i.e. type of sheets including "end of insert", "insert code" and "auxiliary tray select", col. 8, lines 5-20), and discharging means (deflector gate 68, fig. 6) operable when said detecting means detects that the insert sheet fed by said insert means is not the sheet to be inserted first (insertion material sensor SE-2 for detecting types of insert media, fig. 2, col. 7, lines 25-30 and col. 9, lines 1-16) for discharging insert sheets onto at least one tray other than a tray (SE-2 sensor senses insert sheet and if the sensed insert sheet to be inserted is not the media instructed, then forwards the sensed insert sheet to an overflow tray 72, fig. 2, col. 9, lines 1-32) onto which the insert sheet to be inserted first is designated until the insert sheet to be inserted first is detected (insert sheet continues to be feed until the right coded media is sensed, last two steps, fig. 4b, col. 9, lines 9-32 and col. 10, lines 10-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made by modifying image forming apparatus of Inoue to include an insert sheets supply tray for stacking plurality of different types of insert medias and a discharging means for discharging insert sheet fed is not the sheet to be inserted, then discharging the sensed insert sheets onto a different tray as taught by York because of a following reason: (●) to reduce down time due to jam sheets and required minimum attendance by an operator (York, col. 1, lines 45-49); (●) using a single tray for plurality of different type of insert sheet is an advantage of reducing hardware costs (York, col. 1, lines 40-42).

Therefore, it would have been obvious to combine Inoue with York to obtain the invention as specified in claim 1.

Regarding claim 2, Inoue further discloses an image forming apparatus according to claim 1, wherein said stacking means comprises a plurality of trays (inserter trays, col. 21, lines 60-67 and col. 40, lines 60-67+, fig. 30) for stacking said plurality of insert sheets in a divided manner, the image forming apparatus further comprising selecting means (control panel, fig. 34-35) capable of selecting between two types of stacking modes consisting of a first stacking mode in which a same type of insert sheets (i.e., manual insertion trays, fig. 32d) are stacked on each of said plurality of trays and a second stacking mode in which plural types of insert sheets (insertion sheets can be selected from any plurality of inserter trays, col. 40, lines 60-67 to col. 41, lines 1-67 and fig. 32k) are stacked in order in which they are inserted on each of said plurality of trays, and wherein said discharging means discharges insert sheets from while said second stacking mode is selected by said selecting means. Also see York's reference for stacking modes.

Regarding claim 3, Inoue further discloses an image forming apparatus according to claim 1, further comprising post-processing means (i.e. output bins, fig. 30 and 32d) for stacking said sheets having images formed thereon by said image forming means in a fashion mixed with insert sheets inserted by said inserter means, and for carrying out post-processing on the mixedly stacked sheets. Also see York's reference for more details regarding different output trays.

Regarding claim 4, Inoue further discloses an image forming apparatus according to claim 3, wherein said discharging means discharges said insert sheets to a location other (output bins sorter, fig. 30 and 32m) than said post-processing means. Also see York's reference for more details regarding different output trays.

Regarding claim 5, Inoue further discloses an image forming apparatus according to claim 1, comprising a conveyance path (col. 19, lines 8-20) for insert sheets, and wherein said detecting means is provided on said conveyance path for insert sheets.

Regarding claims 14-18: Claims 14-18 are the methods corresponding the apparatus and recite limitations that are similar and in the same scope of invention as to those in claims 1-5;

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therefore, claims 14-18 are rejected for the same rejection rationale/basis as described in claims 1-5 above.

Regarding claim 6, Inoue discloses an image forming apparatus (fig. 2a) comprising:

- inputting means (scanner, fig. 1) for reading images recorded on originals;
- image forming means (printer engine, fig. 1) for forming images on blank sheets based on the read images;
- stacking means (paper inserter trays, fig. 2 and fig. 30, col. 7, lines 5-15 and col. 23, lines 44-67) for stacking a plurality of insert sheets which are inserted between said sheets (interleave sheets, fig. 32d) having images formed thereon by said image forming means;
- inserter means (interleave inserter functions, fig. 32d, fig. 34a-b, col. 41, lines 45-65) for feeding the stacked insert sheets and inserting same between said sheets having images formed thereon;
- designating means (interleave inserter functions, fig. 32d, figs. 34a-b) for designating at least one position (i.e. inserts a sheet of white paper between the respective OHP copy, col. 41, lines 60-65) in said sheets having images formed thereon for insertion of at least one of the insert sheets by said inserter means;
- detecting means (paper detector means for detecting presence/absence of media in paper trays, col. 21, lines 60-67 and col. 22, lines 48-60) for detecting an insert sheet to be inserted first when a plurality of positions have been designated by said designating means;
- interrupting means (interrupt 315, fig. 26) for interrupting a sheet insertion function of said insert means when at least one of the insert sheets has jammed while being inserted by said insert means; and

However, Inoue teaches an image forming apparatus includes stacking means and discharging means but fails to explicitly teach a stacking means for stacking insert sheets in a predetermined order in which the insert sheet are inserted, and discharging means operable when said detecting means detects that the insert sheet fed by said insert means is not the sheet to be inserted first after the apparatus has recovered from the interruption by removing the at least one jammed insert sheet, for discharging insert sheets onto at least one tray other than a tray onto which the insert sheet to be inserted first is designated until the insert sheet to be inserted first is

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detected, and for further discharging insert sheets up to an insert sheet immediately preceding a same type of insert sheet as the at least one jammed insert sheet.

York, in the same field of endeavor for inserting insertion paper, teaches an image forming apparatus (image forming apparatus as shown in fig. 2) having a stacking means (insert paper tray 60 for stacking plurality of different types of medias 62 in predetermined order, fig. 2-3, col. 1, lines 45-65, col. 6, lines 1-67 and col. 8, lines 5-20) for stacking insert sheets in a predetermined order in which the insert sheet are inserted (i.e. type of sheets including “end of insert”, “insert code” and “auxiliary tray select”, col. 8, lines 5-20), and discharging means (deflector gate 68, fig. 6) operable when said detecting means detects that the insert sheet fed by said insert means is not the sheet to be inserted first (insertion material sensor SE-2 for detecting types of insert media, fig. 2, col. 7, lines 25-30 and col. 9, lines 1-16) after the apparatus has recovered from the interruption by removing the at least one jammed insert sheet (jammed sheet can be remove manually by operator and it is known in the art) for discharging insert sheets onto at least one tray other than a tray (SE-2 sensor senses insert sheet and if the sensed insert sheet to be inserted is not the media instructed, then forwards the sensed insert sheet to an overflow tray 72, fig. 2, col. 9, lines 1-32) onto which the insert sheet to be inserted first is designated until the insert sheet to be inserted first is detected (insert sheet continues to be feed until the right coded media is sensed, last two steps, fig. 4b, col. 9, lines 9-32 and col. 10, lines 10-30), and for further discharging insert sheets up to an insert sheet immediately preceding a same type of insert sheet as at least one jammed insert sheet (insert sheet continues to be feed until the right coded media is sensed, last two steps, fig. 4b, col. 9, lines 9-32 and col. 10, lines 10-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made by modifying image forming apparatus of Inoue to include an insert sheets supply tray for stacking plurality of different types of insert medias and a discharging means for discharging insert sheet fed is not the sheet to be inserted, then discharging the sensed insert sheets onto a different tray as taught by York because of a following reason: (●) to reduce down time due to jam sheets and required minimum attendance by an operator (York, col. 1, lines 45-49); using a single tray for plurality of different type of insert sheet is an advantage of reducing hardware costs (York, col. 1, lines 40-42).

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Therefore, it would have been obvious to combine Inoue with York to obtain the invention as specified in claim 6.

Regarding claim 7, Inoue further discloses an image forming apparatus according to claim 1, wherein said stacking means comprises a plurality of trays (inserter trays, col. 21, lines 60-67 and col. 40, lines 60-67+, fig. 30) for stacking said plurality of insert sheets in a divided manner, the image forming apparatus further comprising selecting means (control panel, fig. 34-35) capable of selecting between two types of stacking modes consisting of a first stacking mode in which a same type of insert sheets (i.e., manual insertion trays, fig. 32d) are stacked on each of said plurality of trays and a second stacking mode in which plural types of insert sheets (insertion sheets can be selected from any plurality of inserter trays, col. 40, lines 60-67 to col. 41, lines 1-67 and fig. 32k) are stacked in order in which they are inserted on each of said plurality of trays, and wherein said discharging means discharges insert sheets while said second stacking mode is selected by said selecting means.

Regarding claim 8, Inoue further discloses an image forming apparatus according to claim 1, further comprising post-processing means (i.e. output bins, fig. 30 and 32d) for stacking said sheets having images formed thereon by said image forming means in a fashion mixed with insert sheets inserted by said inserter means, and for carrying out post-processing on the mixedly stacked sheets. Also see York's reference for more details regarding different output trays.

Regarding claim 9, Inoue further discloses an image forming apparatus according to claim 3, wherein said discharging means discharges said insert sheets to a location other (output bins sorter, fig. 30 and 32m) than said post-processing means. Also see York's reference for more details regarding different output trays.

Regarding claim 10, Inoue further discloses an image forming apparatus according to claim 1, comprising a conveyance path (col. 19, lines 8-20) for insert sheets, and wherein said detecting means is provided on said conveyance path for insert sheets.

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Regarding claims 19-23: Claims 19-23 are the methods corresponding the apparatus and recite limitations that are similar and in the same scope of invention as to those in claims 6-10; therefore, claims 19-23 are rejected for the same rejection rationale/basis as described in claims 6-10 above.

Regarding claims 11-13, 24-26 recite limitations that are similar and in the same scope of invention as to those in claims 1-5 above and combination thereof; therefore, claims 11-13 are rejected for the same rejection rationale/basis as described in claims 1-5.

Regarding claims 27, 32, 37-39 correspond to claims 1, 6, 11-13 (respectively) except computer readable memory medium for storing program is claimed rather than printing system or data output apparatus. All computers/printers have some type of computer readable memory medium (RAM, fig. 27, Inoue) for storing computer programs; hence claims 27, 32, 37-39 would be rejected using the same rationale as in claims 1, 6, 11-13.

Response to Arguments

Applicant's arguments, see pages 19-20, filed 1/18/05, with respect to the rejection(s) of claim(s) 1, 6, 11-14, 19, 24-27, 37-39 under 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference due to newly added limitations including "insert sheets are stacked in predetermined order".

- Regarding claims 1, 14, 19, 27, and 32, the applicants argued the cited prior art of record (US 5159546 to Inoue) fails to teach and/or suggest discharging sheets that are not the first insert sheet onto at least one tray other than the tray onto which the first insert sheet is discharged.

In response, the examiner notes that such limitations are not previously cited in claims 1, 14, 19, 27, and 32. To address these newly added limitations, the examiner incorporated a newly found prior art reference (US 4602776 to York). Please see claim 1 above for more details.

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- Regarding claims 6, 19, and 32, the applicants argued the cited prior art of record (US 5159546 to Inoue) fails to teach and/or suggest the interruption and recovery operation.

In response, Inoue explicitly teaches an interruption (i.e. stop button if a jam is occurred during copying/printing) and recovery operation (manual recovering, i.e., restarting the copy job after jammed sheet is removed, which is known in the art).

- Regarding claims 11-13, 24-26, and 37-39, the applicants argued the cited prior art of record (US 5159546 to Inoue) fails to teach and/or suggest feeding subsequent sheets in response to detection of discharging of the insert sheets and/or the image-formed sheet.

In response, both Inoue and newly found prior art reference (US 4602776 to York) teaches a conveyor for feeding subsequent new sheets. For example, if the print job and/or copy job contains more than one page, the conveyor and/or feeding unit continues to feed subsequent sheets to complete the job, which is also known in the art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US 6118544 to Rao, teaches an image forming apparatus with insertion/separation function/features.
- U.S. 5124731 to Knodt et al, discloses an image forming apparatus with insertion function for inserting cover sheets with plurality of different types of paper media.
- U.S. 6765685 Yu, discloses an method for inserting interleave paper with different types of print media.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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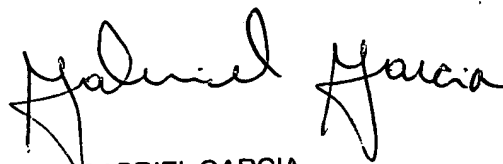
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L. Pham whose telephone number is (571) 2727439. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thierry L. Pham



GABRIEL GARCIA
PRIMARY EXAMINER